ing the year follow-up were significantly higher for patients beginning treatment with a TCA than with a SSRI, 101.7 (SD 68.9) versus 81.6 (SD 63.5). Controlling for confounders, males had fewer absences than females. Labor union members had significantly more absences than did non-union workers. Initiating treatment with a TCA resulted in nine additional absences compared to those beginning treatment with a SSRI. **CONCLUSIONS:** Treatment of depression with antidepressants appears to lead to improved work outcomes through decreased absenteeism. Initiating treatment with a SSRI as opposed to a TCA may reduce the indirect costs of this disease in terms of time away from work.

ICP3

FACTORS INFLUENCING PATIENT WILLINGNESS TO PAY FOR DIABETES DISEASE STATE MANAGEMENT PROGRAMS

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Pharmacists have been working to help patients better manage their health through disease state management (DSM) programs. Because third party payers have been reluctant to provide reimbursement for these services, pharmacists are starting to bill the patient for payment. A better understanding of who to target and how much to charge for DSM programs would be beneficial to pharmacists in developing and providing these programs. **OBJECTIVE:** The purpose of this study was to determine what factors influence patient willingness to pay (WTP) for a diabetes DSM program. **METHODS:** One hundred fifty-five adult patients with diabetes were surveyed by mail on the following factors to determine their effect on WTP for a diabetes DSM program: patient satisfaction with pharmacy services, health care utilization (hospitalizations and emergency room visits), perceived need for DSM, and sociodemographic factors. **RESULTS:** Patients were willing to pay on average \$27.80 (SD = \$31.80) for a one hour diabetes DSM consultation with the pharmacist. A regression model revealed that several factors significantly ($P < 0.05$) influenced patient WTP. Patients who were likely to pay more for a diabetes DSM had a greater perceived need for the service ($P = 0.004$), had more emergency room visits ($P = 0.0001$), were more likely to be male ($P = 0.009$), were more likely to be older ($P = 0.046$), and had higher incomes ($P = 0.001$) This model was significant ($P = 0.0001$) with 32 percent of the variance explained. Although patient satisfaction was not significant, it was positively correlated with WTP. **CONCLUSIONS:** The project results may be useful to pharmacists when determining the level of payment for services, as well as targeting specific individuals and tailoring DSM programs to meet diabetic patients' needs.

ICP4

HEALTH STATE PREFERENCES IN DIABETIC PERIPHERAL NEUROPATHY

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OBJECTIVE: The twofold purpose of the study was to: 1) develop health state descriptions of diabetic peripheral neuropathy (DPN) and its complications for a new utility instrument, and 2) use these descriptions to assess patient preferences for health states associated with disease progression in DPN. **METHODS:** Development and pilot testing of seven standardized health state scenarios describing disease progression and complications in DPN have previously been presented. These seven states are mild neuropathy, painful neuropathy, severe neuropathy, mild ulcer, severe ulcer, minor amputation (toe) and major amputation (below the knee). Patients between the ages of 18 and 80 years were recruited from registries of diabetic patients at the University of Washington Medical Center and the Seattle VA. Patients with a history of DPN symptoms or complications were excluded. Each patient completed a computer interview using the U-Titer II utility measurement software. Both a rating scale (RS) and a standard gamble (SG) technique were used to quantify patient preferences for standardized descriptions of the seven health states. **RESULTS:** 52 patients completed the 60-minute exercise. Overall, the mean utilities for the seven health states were lower with the RS (0.86 to 0.27) when compared to the SG (0.87 to 0.61). The preference scores followed a logical, decreasing order, in accordance with severity, with the exception of the utility for minor amputation being higher than for severe ulcer. Neither previous knowledge of DPN nor demographic characteristics were significant predictors of utility. **CONCLUSIONS:** This study has reported on the development and evaluation of a new preference-based instrument for use in DPN.

Cost Analyses CAN

CAN1

COMPARISON OF COSTS OF ASTHMA TREATMENT BETWEEN PATIENTS TREATED WITH ANTI-INFLAMMATORIES VERSUS BRONCHODILATORS

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Traditionally, bronchodilation with theophylline has been a mainstay of treatment for persistent asthma. Current treatment guidelines, however, call for reliance on anti-inflammatory therapy and recommend that theophylline and other long-acting bronchodilators be re-

served for adjunctive therapy for patients not well-controlled on antiinflammatories alone. **OBJECTIVE:** To estimate the association between type of asthma maintenance therapy (anti-inflammatory versus bronchodilator) and total costs of asthma treatment. **METHODS:** Patients were selected from the Asthma Outcomes Registry cohort if they had received either antiinflammatories (inhaled steroids or cromones) or long-acting bronchodilators (theophylline, long-acting beta-agonists, or ipratropium), but not both, for at least one year prior to study entry. Oral steroid dependent patients and those with incomplete cost data during the baseline and follow-up intervals (365 days before and after their enrollment in the Registry, respectively) were excluded from the analysis. The effect of anti-inflammatory versus bronchodilator therapy was assessed by comparing the change (follow-up minus baseline) in the logarithm of total costs of asthma care. **RESULTS:** 446 patient met criteria for study inclusion, including 351 treated with anti-inflammatories and 95 treated with bronchodilators. Geometric mean costs during the baseline year were similar in the anti-inflammatory and bronchodilator groups ($358 and $351, respectively). In the follow-up year, geometric mean costs declined by $149 (to $209) in the anti-inflammatory group compared to an increase of $19 (to $340) in the bronchodilator group ($P < 0.0001$). This treatment effect was essentially unaltered after adjustment for study site, age, sex, smoking, and comorbidity. **CONCLUSION:** These findings add support to current guidelines recommending reliance on anti-inflammatory therapy to control asthma. The emergence of new therapeutic agents to control inflammation may continue to reduce the costs of treating this important disease.

CAN2

SHORTER HOSPITAL LENGTH OF STAY FOR CORONARY ANGIOPLASTY PATIENTS WHO RECEIVE ABCIXIMAB VERSUS EPTIFIBATIDE OR TIROFIBAN

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OBJECTIVES: The purpose of this study is to examine the effect of treatment with abciximab versus eptifibatide or tirofiban during angioplasty on hospital length of stay (LOS). **METHODS:** Hospital billing data for PTCAs performed over a one year period (July 1998 to June 1999) was obtained from HCIA's Clinical Pathways Database. Data was collected for all patient discharges whose records indicated use of abciximab, eptifibatide, or tirofiban. Results are reported for 6,637 patients. Multivariate analysis was used to control for a wide range of factors (patient demographics, insurance, health conditions, admission and discharge information, as well as hospital characteristics) which may influence LOS. Estimation was conducted via a two-stage sample selection model. The first stage of the analysis utilizes a probit regression to determine the factors associated with the likelihood of receiving abciximab. In the second stage of the analysis a negative binomial model is estimated for patient's LOS, while controlling for unobserved factors that are correlated with the patient's likelihood of receiving abciximab. **RESULTS:** The average LOS for PTCA patients was 3.48 days. After controlling for high risk indications and selection bias, PTCA patients who were given abciximab had a significantly shorter LOS than patients who were administered eptifibatide (0.981 fewer days ± 0.243) or patients who were administered tirofiban (0.934 fewer days ± 0.251). **CONCLUSIONS:** Results of this study indicate that there are potential cost off-sets for hospitals that administer abciximab versus eptifibatide or tirofiban, given the significantly shorter LOS associated with patients who received abciximab.

CAN3

BASELINE COST OF ILLNESS OF PARKINSON'S DISEASE IN A LARGE HEALTHCARE PLAN

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Parkinson's Disease is a chronic neurodegenerative illness, which affects a significant number of elderly individuals. Typically, the process onset is between 45 to 65 years old individuals. The prevalence of Parkinson's in a managed care environment is unknown. **OBJECTIVES:** After controlling for appropriate case mix variables (e.g. age, gender, presence of selected comorbidities etc.) what is the epidemiology and what is the cost of illness of Parkinson's disease in a large healthcare plan? **METHODS:** This was a retrospective database cost of illness study consisting of all members with Parkinson's (ICD-9 332.0) from 7/1/95 to 6/30/98. Members were screened for continuous enrollment, medical, and drug coverage. Members diagnosed prior to 7/1/95 were stratified as prevalent cases. Medicare patients were excluded. The database consisted of all pharmaceutical, professional, laboratory, radiology, and institutional claims for approximately 1.38 million individuals from 1993 to the present. The risk of contracting Parkinson's, and healthcare consumption, were analyzed by patient residence. **RESULTS:** Parkinson's risk was highest in urban areas, 3.69 cases per 1,000, compared to 2.24 for rural, and 1.80 for suburban. Mean cost per patient per year (pppy) for the disease was $2,161. Medical costs were higher at diagnosis and decreased with escalating drug therapy. Medical costs began at $3,120 pppy, dropped to $124 pppy after 12 months, but rose to $1192 pppy after 3 years. Pharmacy costs began at $220 pppy, rose to $520 pppy after 12 months, and were $1796 pppy after 3 years. **CONCLUSIONS:** The incidence and prevalence of Parkinson's in this study matched nationally reported rates. Treatment patterns and cost followed a logical progression towards more drug therapy as the disease apparently worsened.